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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DINH, TUAN T

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,115

Applicant(s)

DISHONGH ET AL.

Examiner

Tuan T Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 9-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1-2, and 7 are objected to because of the following informalities:

Claim 1, line 4, please, change "enshrouded with" to --enshrouded by--.

Claim 2, line 3, please, change "enshrouded with" to --enshrouded by--.

Claim 7, line 2, please, change "covered with" to --covered by--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Shacklette et al. (U. S. Patent 5,850,498).

As to claim 1, Shacklette discloses a printed circuit board (PCB) as shown in figures 1-6 comprising:

a first dielectric board member (2, column 9, lines 44-47, column 13, line 10); and

a first signal line (1, column 13, line 9) supported on said first dielectric board member (2), said first signal line inherently including a first elongated electrically conductive member that is enshrouded (covered or surrounded, see specification

page 3, line 9) by a carbon-based cladding (11, column 5, lines 29-50, column 13, line 10) over at least a portion of an elongated conductive member length (see figure 1).

Note: the references cited (Oehmke (U. S. Patent 4,098,945) or Henry et al. (U. S. Patent 5,104,580) show polymer material having an electrically conductive properties).

As to claim 2, Shacklette discloses the PCB as shown in figures 1-6 further comprising: a second signal line (core 1 having a plurality of conductors 1) on said first dielectric board member (substrate 2), said second signal line including a second elongated conducting member that is enshrouded (covered or surrounded) by a carbon-based cladding (11) over at least a portion of an elongated conductive member length, said second signal line being adjacent to said first signal line (see figure 1).

As to claim 3, Shacklette discloses the PCB as shown in figure 1a wherein said carbon-based cladding of said second signal line is continuous with said carbon-based cladding of said first signal line.

As to claim 4, Shacklette discloses the PCB as shown in figure 1 wherein said carbon-based cladding of said second signal line is discontinuous with said carbon-based cladding of said first signal line.

As to claim 5, Shacklette discloses the PCB as shown in figures 1-6 further comprising a second dielectric board member (5, column 14, lines 20, 47-55) disposed above said first dielectric board member (2) and said first signal line (1).

As to claims 6-7, Shacklette discloses the PCB as shown in figures 1-6 wherein said first elongated conductive member (1) is fully covered over top, bottom, and side

portions over greater than 90% by said carbon-based cladding of an outer surface of the first conductive member length.

As to claim 8, Shacklette discloses the PCB as shown in figures 1-6 wherein said carbon-based cladding has a dielectric constant that is greater than a dielectric constant associated with said first dielectric board member (the carbon based cladding having carbon which is less resistive, and a dielectric board has a rigid resistance (made of epoxy or glass...)).

Response to Arguments

4. Applicant's arguments filed 02/10/03 have been fully considered but they are not persuasive.

Applicant argues:

(a) Shacklette discloses a core (1) made of an arcylyate or polymer material, which is not conductive or electrical conductive.

(b) Shacklette discloses a cladding (11), which is not substantially formed of carbon.

Examiner disagrees.

Response to argument (a), the prior arts cited (Oehmke and Henry) in fact show an arcylyate or polymer material having an electrical conductive, so that providing a well known material or conventional inherently of fact that Shacklette discloses a core (1) made of an arcylyate or polymer material having an electrical conductive properties.

Response to argument (b), Shacklete clearly discloses a cladding (1) made of arcylyate or polymer material including at least 2 to 30 carbon atoms (see column 6, lines 22-33).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Oehmke and Henry et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-305-1341 for regular communications and 703-305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



TD

June 23, 2003.

DAVID L. TALBOTT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800